

# LONGSTEER® VideoProbe®

## Cover the Distance in All Directions with the LongSteer VideoProbe

Didn't think it was possible to inspect and measure in all directions from 30.5 m (100.0 ft) away? Now you can, with the Everest VIT® LongSteer VideoProbe system, the world's only fully articulating video borescope available in lengths up to 30.5 m (100.0 ft). Using a patented compressed air system, the LongSteer system delivers unsurpassed viewing capabilities from every angle for long-length applications.

From boiler tubes to process lines, the LongSteer system examines and measures inside tight spaces, dark areas and long-length piping with ease and mobility. Check for erosion damage, examine for defects on pipe walls or maneuver around turbines with the power and technology of the LongSteer system.

### Versatility

- Interchangeable tip optics for a wide variety of applications
- Pneumatic articulation for "blinder free" inspections, ensuring a complete view

### Durable

- Rugged design to withstand harsh industrial applications
- Industrial-strength insertion tube enters tough areas without sustaining damage

### Advanced

- iView™ technology platform provides Videoprobe® XL PRO™ Digital functionality including: Digital Zoom, Split Screen, Long Exposure, Text Generator, ShadowProbe® and StereoProbe™ measurements
- 50-Watt high-intensity illumination lamp for bright, true-color images even from far away
- Joystick control for easy tip positioning and operation
- ShadowProbe® and StereoProbe™ measurement options

Full system is easily transported by an inspector.

### Portable

- Unused probe length is stored on probe spool during inspection so cable does not drag
- Wheels and retractable handlebar allow quick mobility through process plants, building basements and other inspection areas
- Lightweight 31 lb system fits inside shipping/operating case, with cable reel stored in portable soft pack

### Applications

- Boiler Tubes
- Building Ducts
- Turbine Nozzle Blocks
- Heat Exchangers
- Small-Diameter Piping
- Gear Boxes
- Underwater Applications

### Inspect like you're up close—from distances up to 30.5 m (100 ft) away.

With full articulation, digital imaging and exceptional long-range viewing ability, the LongSteer system provides the most accurate inspection images—even when you can't be near the source. We also offer 24x7 on-site inspection service for extra manpower or the use of additional top-of-the-line inspection equipment, when needed.



Boiler Tube - Pitting



Process Line -  
Coke Deposits



Condenser Tube-  
Erosion Damage

# Specifications\*

Each LongSteer® VideoProbe® model includes a different combination of the features listed below.

## System

Case Dimensions:	55.9 cm (22.0 in) x 55.9 cm (22.0 in) x 26.7 cm (10.5 in)
Hard Base Model	
Hard Advanced/ Measurement	55.9 cm (22.0 in) x 75.0 cm (29.5 in) x 26.7 cm (10.5 in)
Soft Base Model	50.8 cm (20.0 in) x 50.8 cm (20.0 in) x 17.8 cm (7 in)
Soft Advanced/ Measurement	50.8 cm (20.0 in) x 50.8 cm (20.0 in) x 17.8 cm (7.0 in)

Case Weight:	
In Hard Case Base Model	15.9 kg (35.0 lbs) small case
In Hard Case Advanced/ Measurement	19.1 kg (42.0 lbs)
In Soft Case Base Model/ Advanced/ Measurement	6.4 kg (14.0 lbs)

Power Requirement:	
AC Power	Nominal input: 100-240 V (min 90 V, max 250 V); 50-400 Hz; 150 watt max, 2 A max
DC Power	Nominal input: 11-14 V, 11 A max

## Camera

Image Sensor:	4.3 mm (0.17 in) Color Super HAD™ CCD camera
Resolution:	330 HTV Lines S-video, 300 HTV Lines Composite
Pixel Count:	250,000 pixels NTSC; 290,000 pixels PAL
Long Exposure:	Exposes CCD beyond 1/60th of second, up to 12 seconds via auto and manual mode
Housing:	6.1 mm (0.24 in): Titanium, 8.4 mm (0.33 in): Stainless Steel

## Hand-piece / Pendant

Construction:	ABS with integrated sanoprene bumpers
Dimensions:	30.5 cm (12.0 in) x 147.3 mm (5.8 in) x 127.0 mm (5.0 in)
Weight:	Hand-piece with probe 2.3 kg (5.0 lbs)
LCD Monitor:	Integrated 12.7 cm (5.0 in) active matrix TFT color LCD
Joystick Control:	One finger activated menu controls
Button Set:	Accesses measurement, digital and LCD function controls
Microphone:	Built-in high-sensitivity microphone for adding annotation to stored images, or for live A/V recording

## Software

Operating System:	Real-time multi-tasking iView™ Operating System
User Interface:	Simple drop-down menu driven operation Menu navigation using articulation joystick
File Manager:	Embedded file manager software supporting: File & Folder creation, naming, deleting Store to internal Flash (C:) or floppy disk (A:)\ Copy between A:\ and C:\
Audio Data:	PC compatible (.WAV) file format User creation of 15 second digital audio file linked to stored images
Image Controls:	Handset control of image brightness (gain & exposure) Up to 12 seconds long exposure/image integration capability Single button image invert
Image Capture and Recall:	Single button activated freeze-frame Full-screen live or recalled image Split-screen, live or recalled image
Digital Zoom:	Five level zoom and continuous (1.0X, 1.5X, 2.0X, 2.5X, 3.0X)
Image Formats:	Single image file with embedded measurement & annotation data User selectable PC compatible formats: Bitmap (.BMP), High-quality JPEG (.JPG), Standard-quality JPEG (.JPG)
Text Annotation:	Built-in full screen text overlay generator Joystick or PS/2 keyboard character entry Up to 40, 2-line preset text script storage On-screen time/date stamp option
Graphic Annotation:	User placement of attention arrows User created on-screen Bitmap logo
Lamp Control:	Software controlled lamp on/off
Software Status:	On-screen software revision status display
Software Updates:	Field updateable via floppy disks

## Tip/Lens Options

### Standard Optical Tips

TIP VIEW	TIP COLOR	FIELD OF VIEW	DEPTH OF FIELD	MAGNIFICATION on 13" Monitor/5" LCD	6.1 mm PROBE TIP PART #	10.0 mm PROBE TIP PART #
FORWARD	NONE	50°	50 mm – infinity	10X / 4X	XT650FF	XT850FF
FORWARD	WHITE	50°	12 mm – 200 mm	30X / 11X	PXT650FG	PXT850FG
FORWARD	YELLOW	90°	20 mm – infinity	12X / 5X	PXT690FF	PXT890FF
FORWARD	ORANGE	80°	3 mm – 20 mm	70X / 27X	PXT680FN	PXT880FN
FORWARD	BLACK	100°	5 mm – 120 mm	45X / 17X	PXT6100FG	PXT8100FG
SIDE	BROWN	50°	45 mm – infinity	10X / 4X	XT650SF	XT850SF
SIDE	GREEN	50°	9 mm – 160 mm	30X / 11X	PXT650SG	PXT850SG
SIDE	RED	80°	1 mm – 20 mm	70X / 27X	PXT680SN	PXT880SN
SIDE	BLUE	100°	4 mm – 100 mm	30X / 11X	PXT6100SG	PXT8100SG

### Shadow Measurement Optical Tips

FORWARD	WHITE	50°	12 – 30 mm	30X / 11X	XTM650FG	
SIDE	GREEN	50°	12 – 35 mm	30X / 11X	XTM650SG	
SIDE	BLUE	50°	7 – 24 mm	50X / 19X	XTM650SN	

### Stereo Measurement Optical Tips

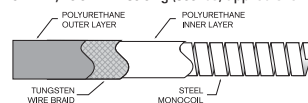
FORWARD	BLACK	60°/60°	4 – 80 mm	37X / 15X	PXTM66000FG	
SIDE	BLUE	50°/50°	2 – 30 mm	37X / 15X	PXTM65050SG	

NOTE: 10 mm LongSteer uses 8 mm tip optics

\*Specifications subject to change without notice.

## Insertion Tube

Diameter:	6.1 mm (0.24 in), 10.0 mm (.39 in) Matching tips are same diameter
Lengths:	6.1 mm: 122.0 m (40.0 ft), 18.3 m (60.0 ft) 10.0 mm: 122.0 m (40.0 ft), 18.3 m (60.0 ft), 30.5 m (100.0 ft)
Construction:	Durable tungsten braid over stainless steel monocoil with polyurethane sealant
Crush Resistance:	6.1 mm, 10.0 mm: 136.0 kg (300 lbs) applied over 7.6 cm (3.0 in) diameter surface



Articulation:

PROBE DIAMETER	
6.1 mm	Up/Down - 80° min
10.0 mm	Up/Down - 120° min Left/Right - 120° min

## Operating Environment

Tip Operating Temp:	-25°C to 80°C (-13°F to 176°F) Reduced articulation below 0°C (32°F)
System Operating Temp:	-20°C to 46°C (-4°F to 115°F) LCD requires warm-up period below 0°C (32°F)
Storage Temperature:	-25°C to 60°C (-13°F to 140°F)
Relative Humidity:	95% max
Waterproof:	Insertion tube and tip to 14.7 psi (1 bar) (Equivalent to water depth of 9.1 m [30 ft])
Hazardous Environments:	Not rated for use in hazardous environments

## Processor/Light Source

Processor:	32 bit Pentium®-class embedded computer system
Memory:	Program and data stored in 16 MB Flash memory
File Storage Capacity:	Internal – Up to 14 .BMPs, 140 high-qual .JPGs, or 450 standard-qual .JPGs Floppy Disk – 1 .BMP, 14 high-qual .JPGs, or 48 standard-qual .JPGs 32 MB FlashPath™ – 28 .BMPs, 280 high-qual .JPGs, or 900 standard-qual .JPGs
Dimensions:	29.5 cm (11.6 in) x 27.9 cm (11.0 in) x 14.0 cm (5.5 in)
Construction:	Aluminum chassis with polyurethane bumpers
Disk Drive:	3.5 in, 1.44 MB, or 3.5 in, 32 MB FlashPath™
Brightness Control:	Auto and Variable
Lamp Type:	50 watt Metal Halide Arc
Lamp Output:	2600 lumens
Color Temp:	5885°K
Lamp Life:	1000 hrs., median
Keyboard:	PS/2 style keyboard connector
Speaker Volume:	Adjustable volume control knob
Audio Speaker:	Built-in speaker on front panel
Audio Out Jack:	2V RMS max., line-level audio out RCA connector
Video Input:	75 ohm terminated BNC for composite video, S-Video connector for S-Video
Video Out:	BNC for composite video, S-Video connector for S-Video

## Air Controller

Dimensions:	16.5 x 9.5 x 39.4 cm (6.5 x 3.7 x 15.5 in)
Air Inlet Fitting:	6.35 mm (0.25 in) capacity, industrial interchange, MIL-C-4109
Air Input:	5.5-8.2 bars (80-120 psi) 0.5 cfm flow rate 14 l/m

## Measurement

StereoProbe™ and ShadowProbe® Mode:	Built-in StereoProbe software which uses triangulation geometry on stereoscopic images in order to provide measurements. Available on 6.1 mm insertion tube diameter products. Supports: Point-to-point length measurements on perpendicular or skewed surfaces Depth measurement Area measurement Multi-point length Multiple measurements per image Zoom windows for accurate cursor placement On-screen indication of match strength of computer positioned cursor (StereoProbe™ only) On-screen accuracy indication (Accuracy Index) Accuracy warning option (if target distance from camera reduces accuracy below user-set measurement accuracy specification)
Comparison Mode:	Built-in comparison measurement software (measure items in field using known dimension of another object in that field).
Cursor Options:	All measurement modes support the following cursor options: 2-cursor video caliper Joined 2-cursor video caliper 3-cursor point-to-line User definable go/no-go calibrated circle gauge (shadow and comparison mode only)

## Language

User selectable: English, French, Spanish, Italian, German  
Custom language support available

## Standard System Includes

Longsteer VideoProbe® • Light Source • Shipping Cases (1 hard case, 1 soft case)  
Headguard • User's Manual • Neck Strap • Sun Visor